

# CLAIMS

We claim:

1. A method for determining a closed position of a throttle plate in an internal combustion engine, comprising the steps of:

- 1961  
col. 4, line 25, 26  
5 (1961) determining a first closed position value; *if throttle plate (valve) position for throttle position*  
estimating a temperature of a throttle body of said internal combustion engine; and,  
selecting one value from said first closed position value *of throttle plate*  
and a second closed position value stored in a memory responsive to said temperature, said one value corresponding  
10 to said closed position of said throttle plate.

✓ 2. The method of claim 1, further comprising the step of storing said one value in said memory.

✓ 3. The method of claim 1 wherein said determining step includes the substeps of:

urging said throttle plate from an open position to said closed position;

- 5 generating a plurality of position values responsive to a plurality of positions of said throttle plate as said throttle plate moves from said open position to said closed position; and,

recording one of said plurality of position values as  
10 said first closed position value responsive to a predetermined condition.

4. The method of claim 3 further comprising the substep of determining whether said throttle plate failed to arrive at said closed position.

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5. The method of claim 1 wherein said selecting step includes the substep of determining whether said temperature is within a predetermined temperature range.

6. The method of claim 1 wherein said selecting step includes the substep of calculating an average of a plurality of previously obtained closed position values stored in said memory.

7. The method of claim 1 wherein said second closed position value is selected as said one value when said temperature is greater than a predetermined temperature.

8. A system for determining a closed position of a throttle plate in an internal combustion engine, comprising:

c11, line 13-48 a throttle plate position sensor that generates a position signal indicative of a position of said throttle plate;

c12, line 41-45+ a temperature sensor that generates a temperature signal indicative of a temperature of a throttle body of said internal combustion engine; and,

an electronic control unit configured to determine a first closed position value responsive to said position signal and to select one value from said first closed position value and a second closed position value stored in a memory responsive to said temperature signal, said one value corresponding to said closed position of said throttle plate.

9. The system of claim 8, further wherein said electronic control unit is further configured to store said one value in said memory.

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10. The <sup>System</sup>method of claim 8 wherein said electronic  
control unit is further configured, in determining said first  
closed position value, to generate a throttle control signal  
that urges said throttle plate from an open position to said  
5 closed position, to generate a plurality of position values  
responsive to a plurality of said position signals generated  
by said throttle plate position sensor as said throttle plate  
moves from said open position to said closed position; and to  
record one of said plurality of position values as said first  
10 closed position value responsive to a predetermined condition.

11. The system of claim 10 wherein said electronic  
control unit is further configured, in determining said first  
closed position value, to determine whether said throttle  
plate failed to arrive at said closed position.

✓ 12. The <sup>System</sup>method of claim 8 wherein said electronic  
control unit is further configured, in selecting said one  
value, to determine whether said temperature is within a  
predetermined temperature range.

13. The <sup>System</sup>method of claim 8 wherein said electronic  
control unit is further configured, in selecting said one  
value, to calculate an average of a plurality of previously  
obtained closed position values stored in said memory.

14. The <sup>System</sup>method of claim 8 wherein said electronic  
control unit is further configured, in selecting said one  
value, to select said second closed position as said one value  
when said temperature is greater than a predetermined  
5 temperature.

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15. An article of manufacture, comprising:  
a computer storage medium having a computer program  
encoded therein for determining a closed position of a  
throttle plate in an internal combustion engine, said computer  
5 program including:  
code for determining a first closed position value;  
code for estimating a temperature of a throttle body  
of said internal combustion engine; and,  
code for selecting one value from said first closed  
10 position value and a second closed position value stored in a  
memory responsive to said temperature, said one value  
corresponding to said closed position of said throttle plate.

16. The article of manufacture of claim 15 further  
comprising code for storing said one value in said memory.

17. The article of manufacture of claim 15 wherein said  
code for determining said first closed position value  
includes:  
code for generating a throttle control signal to urge  
5 said throttle plate from an open position to said closed  
position;  
code for generating a plurality of position values  
responsive to a plurality of position signals generated by a  
throttle plate position sensor as said throttle plate moves  
10 from said open position to said closed position; and  
code for recording one of said plurality of position  
values as said first closed position value responsive to a  
predetermined condition.

18. The article of manufacture of claim 17 wherein said  
code for determining said first closed position value further  
includes code for determining whether said throttle plate  
failed to arrive at said closed position.

19. The article of manufacture of claim 15 wherein said code for selecting said one value further includes code for determining whether said temperature is within a predetermined temperature range.

20. The article of manufacture of claim 15 wherein said code for selecting said one value further includes code for calculating an average of a plurality of previously obtained closed position values stored in said memory.

21. The article of manufacture of claim 15 wherein said code for selecting said one value further includes code for selecting said second closed position as said one value when said temperature is greater than a predetermined temperature.

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*Add A1*

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